

AMENDMENTS TO THE CLAIMS

Please cancel claims 18, 27, and 36-39.

Please add the following new claims:

45. A data processing system for processing a digital signal, the data processing system comprising:

a shared bus that transfers data and instructions;

a shared memory array that stores data and general purpose instructions and that is connected to transfer data and general purpose instructions between the shared bus and the shared memory array;

a digital signal execution unit (DSEU) connected to the shared bus that processes the digital signal utilizing data transferred between the shared memory array and the DSEU on the shared bus and a selected sequence of individual DSEU instructions, the selected sequence of DSEU instructions including individual general purpose instructions transferred between the shared memory array and the DSEU on the shared bus; and

a general purpose processor (GPP) connected to the shared bus for controlling the DSEU by selecting each general purpose instruction to be transferred to the DSEU from the shared memory array, the selected sequence of individual DSEU instructions executed by the DSEU being selectively configurable by the GPP selecting individual general purpose instructions.

46. The data processing system of claim 45 wherein the DSEU has a register, and starts execution of a general purpose instruction in response to the GPP loading information into the register.

47. The data processing system of claim 45 wherein the GPP loads data into a location, and the DSEU retrieves data required by the instruction from the location.

48. The data processing system of claim 45 wherein the DSEU places the GPP in a continuous wait state while the DSEU executes the instruction.

49. The data processing system of claim 45 wherein the GPP reads a status of the DSEU after the DSEU complete execution of the instruction.

50. The data processing system of claim 45 wherein the GPP reads a value that results from executing the instruction after the DSEU completes execution of the instruction.

51. The data processing system of claim 45 wherein the DSEU only executes a single general purpose instruction when said information is loaded into the register.